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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/347,622	07/02/1999	STEVEN W. MEEKS	4304	4111

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EXAMINER

NGUYEN, TU T

ART UNIT PAPER NUMBER

2877

DATE MAILED: 07/29/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/347,622

Applicant(s)

MEEKS ET AL.

Examiner

Tu T Nguyen

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 May 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 3-14 and 16-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3-14, 16-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

Detailed Office Action

***Response to Arguments***

Applicant's arguments with respect to claims 3-14,16-32 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 3-4,8-9,16-20,26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vurens (6,307,627).**

With respect to claim 3, Vurens discloses a method for measuring a phase difference between first and second reflected polarized light signal components. The method comprises: transmitting a first light signal 710 (fig 6) toward a first object 5 (fig 6), separating 740 (fig 6) the first and the second reflected light components 666s, 666p (fig 6), detecting the intensity 672s, 672p (fig 6), measuring the phase different (column 24, lines 17-20).

Vurens does not explicitly disclose the object is an magnetic disk or a silicon wafer. However, it would have been obvious to use Vurens's system to measure the characteristic of the disk or a wafer.

With respect to claim 4, Vurens discloses determining surface characteristic of the substrate (abstract) so the claimed determining a texture on the object would have been inherent.

With respect to claims 5-6, Vurens discloses a step of determining the thickness of the lubricant and the carbon layer (column 9, lines 5-15).

With respect to claim 7, Vurens does not explicitly teach determining magnetic characteristic of the object based on difference in phase, however, it would have been obvious to modify Vurens's method to include the determining magnetic characteristic of the object. The motivation for this would have been to report specific characteristics and specification of the disk to the manufacture using the measured result of light intensity and phase different; this would help providing user several specific characteristic of the disk using a simple measuring system.

With respect to claims 8-9, the claimed first and second orthogonal polarized components would have been inherent.

With respect to claims 16-17, refer to discussion in claims 3-4 above. The claimed system is an extended of the claimed method as claimed in claims 4.

With respect to claim 26, refer to discussion in claim 8. The claimed system is an

extended of the claimed method as claimed in claim 8.

With respect to claims 18-20, refer to discussion in claims 5-7. The claimed system is an extended of the claimed method as claimed in claims 5-7.

**Claims 10,21,27,30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vurens (6,307,627) in view of Yamamoto et al (5,610,897).**

With respect to claim 10, Vurens does not disclose measuring the magneto-optic Kerr effect based upon the difference in phase. However, Yamamoto discloses the relationship between the phase difference of the S and P polarized components and the Kerr effect (column 50, lines 12-19). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to include consideration of Kerr effect in Vurens's method as suggested by Yamamoto in order to improve the system's accuracy.

With respect to claim 21, refer to discussion in claim 10. The claimed system is an extended of the claimed method as claimed in claim 10.

With respect to claim 27, refer to discussion in claim 2 for determining the phase difference and to claim 10 for the Kerr effect.

With respect to claim 30, refer to discussion in claim 27. The claimed system is an extended of the claimed method as claimed in claim 27.

**Claims 11-12,22-23,28-29,31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vurens (6,307,627) in view of Yamamoto et al (5,610,897) in view of Singhal et al (5,985,680).**

With respect to claim 11, Vurens and Yamamoto do not disclose determining a defect and marking the defect. However, Singhal discloses a method for determining the defect (column 1, line 16, lines 23-26) and marking the defect (column 1, lines 65-66). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine Singhal method for marking defect to Vurens's method in order to report the user the exact location where the defect is found. This would help simplifying the procedure to locate the error location.

With respect to claim 12, Vurens and Yamamoto do not disclose the claimed marking steps. However, Singhal disclose a method for marking the defect by moving and positioning a mechanical scribe to a defect position (column 3, lines 10-12); marking the location with the scribe (column 3, lines 9-10). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine Singhal method for marking defect to Vurens's method in order to report the user the exact location where the defect is found. This would help simplifying the procedure to locate the error location.

With respect to claims 22-23, refer to discussion in claims 11-12. The claimed system is an extended of the claimed method as claimed in claims 11-12.

With respect to claim 28, refer to discussion in claim 11 for determining and marking the defect.

With respect to claim 29, refer to discussion in claim 12 for positioning the defect.

With respect to claims 31-32, refer discussion in claims 22-23 above.

**Claims 13-14,24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vurens (6,307,627) in view of Singhal et al (5,985,680).**

With respect to claim 13, Vurens does not disclose determining a defect and marking the defect. Singhal discloses a method for determining the defect (column 1, line 16, lines 23-26) and marking the defect (column 1, lines 65-66). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine Vurens's method with Singhal's method of detecting and marking the defect to avoid repeating scanning the wafer for defects to reduce the system test.

With respect to claim 14, refer to discussion in claim 12 above.

With respect to claims 24-25, refer to discussion in claims 13-14 above. The claimed system is an extended of the claimed method as claimed in claims 13-14.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tu T Nguyen whose telephone number is (703) 306-9185. The examiner can normally be reached on M-T 7:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G Font can be reached on (703) 308-4881. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



**Tu Tuan Nguyen**  
**Patent Examiner TC 2877**  
**July 25, 2002/TTN**